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EXAMINER				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/552,776

**Applicant(s)**

NIJBOER ET AL.

**Examiner**

CHIBUIKE K. NWAKAMMA

**Art Unit**

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

An amendment dated 01/06/2009 has been considered with the following results:

#### ***Claim Objections***

1. Claim 10 is objected to because of the following informalities: Claim 10, line 1 "the computer program product as claimed in claim 4" is improper. It is suggested to recite --the computer program product as claimed in claim 8--. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable as over Shishido (US 2001/0026518 A1) in view of Ijtsma et al (WO 01/22416) and Igarashi (Patent No. 5802028).

Regarding claim 1, Shishido discloses a device (Fig. 7, element 30; [0061-0063]) for recording data and data structures on a write-once storage medium ([0037]; [0057]... packet consists of data blocks...contains 2352-byte user data equates to as data structure).

writing means for recording the data and the data structures (Fig. 7, elements 31-33, 42-43 and [0017]...data recording means...packet position recording means...wherein the data recording means records a new data on a track);

controlling means for generating the data structures and controlling the writing means ([0062-0064]; Fig. 7, elements 36, 37 are control means for generating data structures [0057]... packet consists of data blocks...contains 2352-byte user data equates to as data structure);

wherein the controlling means (Fig. 7, elements 36, 37) are adapted to record the data structures at a predefined temporary location in a reserved area on the write-once storage medium, i.e., CD-R, (Figs. 7, 11; [0101]...a reserved region...in the pre-gap; [0103]...when a data write is performed; 0104]...orange book specification...packet position information are recorded in these reserved regions and [0062]). However does not disclose data structures comprising space bitmap and defect management structure and to finalize the write-once storage medium by recording the data structures at a predefined fixed location on the write-once storage medium, wherein the predefined fixed location is predefined for a rewritable storage medium, wherein the predefined fixed location is a different location than the temporary location.

Ijtsma discloses a write-once storage medium [CD-R] having the following requirement: a lead-in/lead-out areas, and program area, hence, Figs. 1-4 (page 4, line 31-page 5, line 3); recording at predefined temporary location in a reserved area (Fig. 4: General Purpose Area comprises reserved packet region; page 17, lines 29-30), and to finalize the write-once storage medium [CD-R] by recording at a predefined fixed

location [i.e., lead-in and lead-out areas] on the write-once storage medium (Figs. 1-4 and page 18, lines 6-9), wherein the predefined fixed location [lead-in and lead-out areas] is a different location than the temporary location [General purpose area comprising reserved area as shown in Fig. 4], wherein the predefined fixed location is predefined for a rewritable storage medium (page 4, line 31-page 5, line 3 and claim 8; Hence, Figs. 1-4 comprises the same format for a CD-R and CD-RW).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido to include the teachings of Ijtsma where the controlling means are adapted to record the data structures at a predefined temporary location in a reserved area on the write-once storage medium and to finalize the write-once storage medium by recording the data structures at a predefined fixed location on the write-once storage medium, wherein the predefined fixed location is predefined for a rewritable storage medium, wherein the predefined fixed location is a different location than the temporary location. The modification would have been obvious for the benefit of guaranteeing compatibility with different disc types during recording and reading operations.

Shishido in view of Ijtsma does not disclose data structures comprising space bitmap and defect management structure.

Igarashi discloses data structures comprising space bitmap and defect management structure (Col. 10, lines 15-34; Col. 8, lines 25-48 discloses of a space bit map and a defect management structure, i.e., defective allocation block).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido in view of Ijtsma with the teachings of Igarashi to expressly disclose data structures comprising space bitmap and defect management structure, so, to record beforehand, prescribed data at other sectors in order to record data at sectors for a part of the cluster (Igarashi; Col. 8, lines 17-20).

Claim 4 is a method claim correspondent to the functional operation of the apparatus (device) claim 1. Therefore, claim 4 is analyzed and rejected as previously discussed with respect to claim 1.

Regarding claim 8, Shishido discloses a computer program product (Figs. 8-10) for recording data and data structures on a write-once storage medium, i.e., CD-R, ([0037]; [0057]... packet consists of data blocks...contains 2352-byte user data equates to as data structure), which program is operative to cause a processor (Fig. 7, elements PC, 35 and 37) to perform acts of:

- recording the data (Fig. 7);

- recording the data structures at a predefined temporary location in a reserved area on the write-once storage medium, i.e., CD-R, (Figs. 7, 11; [0101]...a reserved region...in the pre-gap; [0103]...when a data write is performed; 0104]...orange book specification...packet position information are recorded in these reserved regions and [0062]). However, does not disclose data structures comprising space bitmap and defect management structure; finalizing the write-once storage medium by recording

the data structures at a predefined fixed location on the write-once storage medium, wherein the predefined fixed location is predefined for a rewritable storage medium, wherein the predefined fixed location is a different location than the temporary location.

Ijtsma discloses a write-once storage medium [CD-R] having the following requirement: a lead-in/lead-out areas, and program area, hence, Figs. 1-4 (page 4, line 31-page 5, line 3); recording at predefined temporary location in a reserved area (Fig. 4: General Purpose Area comprises reserved packet region; page 17, lines 29-30), and to finalize the write-once storage medium [CD-R] by recording at a predefined fixed location [i.e., lead-in and lead-out areas] on the write-once storage medium (Figs. 1-4 and page 18, lines 6-9), wherein the predefined fixed location [lead-in and lead-out areas] is a different location than the temporary location [General purpose area comprising reserved area as shown in Fig. 4], wherein the predefined fixed location is predefined for a rewritable storage medium (page 4, line 31-page 5, line 3 and claim 8; Hence, Figs. 1-4 comprises the same format for a CD-R and CD-RW).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido to include the teachings of Ijtsma where the controlling means are adapted to record the data structures at a predefined temporary location in a reserved area on the write-once storage medium and to finalize the write-once storage medium by recording the data structures at a predefined fixed location on the write-once storage medium, wherein the predefined fixed location is predefined for a rewritable storage medium, wherein the predefined fixed location is a different location than the temporary location. The modification would have been obvious for the benefit

of guaranteeing compatibility with different disc types during recording and reading operations.

Shishido in view of Ijtsma does not disclose data structures comprising space bitmap and defect management structure.

Igarashi discloses data structures comprising space bitmap and defect management structure (Col. 10, lines 15-34; Col. 8, lines 25-48 discloses of a space bit map and a defect management structure, i.e., defective allocation block).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido in view of Ijtsma with the teachings of Igarashi to expressly disclose data structures comprising space bitmap and defect management structure, so, to record beforehand, prescribed data at other sectors in order to record data at sectors for a part of the cluster (Igarashi; Col. 8, lines 17-20).

Claim 2, Shishido in view of Ijtsma and Igarashi discloses the device as claimed in claim 1.

Shishido further discloses wherein the controlling means controlling the write-once storage medium (Fig. 7, elements 1, 33, 36-37), where the write once comprises of reserved areas (Fig. 11).

Ijtsma further teaches finalization of write-once storage medium (Figs. 1-4 and page 4, line 31-page 5, line 3; page 16, line 31-page 17, line 1; and page 18, line 6).

Igarashi further teaches recording of dummy data in all free parts of a reserved area (col. 8, lines 57-67 teaches recording dummy data at logical blocks; col. 10, lines



35-39 teaches reserved areas, i.e., a region that has been allocated for recording but data has not yet been recorded).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido in view of Ijtsma with the teachings of Igarashi to finalize write-once storage medium by recording dummy data in all free parts of the reserved area, so, to manage data and record prescribed data at prescribed allocation blocks and NULL data at remaining allocation blocks, thereby, recording at greater speed (Igarashi; col. 9, lines 7-13).

Claim 3, Shishido in view of Ijtsma and Igarashi further discloses the device as claimed in claim 1.

Shishido further discloses wherein the controlling means (Fig. 7, elements 37 and 33) are adapted to read the data structures from the predefined temporary location and to record data structures (Fig. 11 and [0066]...during a reproduce...a data read is performed; [0057]... packet consists of data blocks...contains 2352-byte user data equates to as data structure) and to record data structures.

Ijtsma further teaches recording at predefined fixed location, i.e., lead-in/lead-out areas (Figs. 1-4 and page 18, lines 6-9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido in view of Ijtsma with the teachings of Igarashi where the controlling means are adapted to read the data structures from the predefined temporary location [reserved regions] and to record data structures the data

structures at the predefined fixed location [lead-in/lead-out areas], so, to improve performance and record at greater speed.

Claim 5, Shishido in view of Ijtsma and Igarashi further discloses the method as claimed in claim 4, comprising an act of:

recording dummy data in all free parts of the reserved area (Igarashi; Col. 8, lines 57-67 discloses of recording dummy data at logical blocks; Col. 10, lines 35-39 discloses of reserved area, i.e., a region that has been allocated for recording data but data has not yet actually been recorded).

Claim 6, Shishido in view of Ijtsma and Igarashi further discloses the method as claimed in claim 4, comprising an act of:

Shishido further discloses reading the data structures from the predefined temporary location (Figs. 7 and 11 and [0066]...during a reproduce...a data read is performed; [0057]... packet consists of data blocks...contains 2352-byte user data equates to as data structure; further, the optical pickup of Fig. 7 reads and writes from the disk, where the disk comprises reserved regions [predefined temporary location] as shown in Fig. 11).

Regarding claim 9, Shishido in view of Ijtsma and Igarashi discloses the computer program product as claimed in claim 8.

Shishido further discloses a program (Figs. 7-9) which is operative to cause a processor to perform an act of recording (Fig. 7, elements 1, 33, 35 and 37), including recording in a reserve region (Fig. 11 and [0104]).

Shishido in view of Ijtsma does not teach recording of dummy data in all free parts of the reserved area.

Igarashi teaches recording of dummy data in all free parts of a reserved area (col. 8, lines 57-67 teaches recording dummy data at logical blocks; col. 10, lines 35-39 teaches reserved areas, i.e., a region that has been allocated for recording but data has not yet been recorded).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido in view of Ijtsma with the teachings of Igarashi where a program is operative to cause a processor to perform an act of recording dummy data in all free parts of the reserved area, so, to manage data and record prescribed data at prescribed allocation blocks and NULL data at remaining allocation blocks, thereby, recording at greater speed (Igarashi; col. 9, lines 7-13).

Regarding claim 10, Shishido in view of Ijtsma and Igarashi discloses the computer program product as claimed in claim 8.

Shishido further teaches wherein the program (Fig. 7 and [0066])...during a reproducing...a data read is performed from the optical disk) is operative to cause a processor (Fig. 7, elements 35 and 37) to perform an act of reading the data structures from the predefined temporary location [i.e., reserve region of Fig. 11].

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable as over De Haan (US 2003/0068159 A1) in view of Shishido (US 2001/0026518 A1) and further in view of Ijtsma et al (WO 01/22416) and Igarashi (US 5802028).

Regarding claim 7, De Haan discloses a write-once storage medium that is finalized ([Abstract]...disc-like recording medium of the write-once type, [0090]...disc could be finalized; [0039]...last recording has been made and a disc finalization step is being performed). **However**, De Haan does not disclose the write-once storage medium comprising data structures including space bit map and defect management structures, wherein the data structures are recorded at a predefined temporary location in a reserved area on the write-once storage medium and the data structures are recorded at a predefined fixed location on the write-once storage medium, wherein the predefined fixed location is predefined for a rewritable storage medium, wherein the predefined fixed location is a different location than the predefined temporary location.

Shishido discloses a write once storage medium (Fig. 7, element 1; [0037]), wherein the data structures are recorded at a predefined temporary location in a reserved area on the write-once storage medium, i.e., CD-R, (Figs. 7, 11; [0101]...a reserved region...in the pre-gap; [0103]...when a data write is performed; [0104]...orange book specification...packet position information are recorded in these reserved regions and [0062]). **However**, does not disclose data structures comprising space bitmap and defect management structure; finalizing the write-once storage medium by recording the data structures at a predefined fixed location on the write-once

storage medium, wherein the predefined fixed location is predefined for a rewritable storage medium, wherein the predefined fixed location is a different location than the temporary location.

Ijtsma discloses a write-once storage medium [CD-R] having the following requirement: a lead-in/lead-out areas, and program area, hence, Figs. 1-4 (page 4, line 31-page 5, line 3); recording at predefined temporary location in a reserved area (Fig. 4: General Purpose Area comprises reserved packet region; page 17, lines 29-30), and to finalize the write-once storage medium [CD-R] by recording at a predefined fixed location [i.e., lead-in and lead-out areas] on the write-once storage medium (Figs. 1-4 and page 18, lines 6-9), wherein the predefined fixed location [lead-in and lead-out areas] is a different location than the temporary location [General purpose area comprising reserved area as shown in Fig. 4], wherein the predefined fixed location is predefined for a rewritable storage medium (page 4, line 31-page 5, line 3 and claim 8; Hence, Figs. 1-4 comprises the same format for a CD-R and CD-RW).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido to include the teachings of Ijtsma where the controlling means are adapted to record the data structures at a predefined temporary location in a reserved area on the write-once storage medium and to finalize the write-once storage medium by recording the data structures at a predefined fixed location on the write-once storage medium, wherein the predefined fixed location is predefined for a rewritable storage medium, wherein the predefined fixed location is a different location than the temporary location. The modification would have been obvious for the benefit

of guaranteeing compatibility with different disc types during recording and reading operations.

Shishido in view of Ijtsma does not disclose data structures comprising space bitmap and defect management structure.

Igarashi discloses data structures comprising space bitmap and defect management structure (Col. 10, lines 15-34; Col. 8, lines 25-48 discloses of a space bit map and a defect management structure, i.e., defective allocation block).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shishido in view of Ijtsma with the teachings of Igarashi to expressly disclose data structures comprising space bitmap and defect management structure, so, to record beforehand, prescribed data at other sectors in order to record data at sectors for a part of the cluster (Igarashi; Col. 8, lines 17-20).

### ***Response to Arguments***

5. Applicant's arguments filed 06 January 2009 with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Suzuki et al (US 2003/0218951 A1), Mine et al (US 5978336), Park et al (US 2004/0174793 A1 and US 7188271 B2), Kayanuma (US 6341109 B1) and Hwang et al (US 2004/0246852 A1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHIBUIKE K. NWAKAMMA whose telephone number is (571)270-3458. The examiner can normally be reached on Mon-Thur and Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 5712727579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. K. N./  
Examiner, Art Unit 2627  
01/14/09

/William J. Klimowicz/  
Primary Examiner, Art Unit 2627